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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Jong Sang Baek

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EXAMINER

BECK, ALEXANDER S

ART UNIT

PAPER NUMBER

2629

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DELIVERY MODE

10/21/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 09/893,559	<b>Applicant(s)</b> BAEK ET AL.	
	<b>Examiner</b> ALEXANDER S. BECK	<b>Art Unit</b> 2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07 August 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 12-35 is/are pending in the application.
- 4a) Of the above claim(s) 18-35 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 12-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 January 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>7/14/09</u> .   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### **CONTINUED EXAMINATION UNDER 37 CFR 1.114**

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on August 7, 2009, has been entered.

Claims 12-35 are currently pending, of which claims 18-35 are withdrawn, and an Office action on the merits follows.

### **INFORMATION DISCLOSURE STATEMENT**

2. The information disclosure statement filed July 14, 2009, has been acknowledged and considered by the examiner. An initialed copy of the PTO-1449 is included in this correspondence.

### **CLAIM REJECTIONS - 35 USC § 103**

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 12-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,279,035 to Skerlos ("Skerlos") in view of U.S. Patent No. 5,713,040 to Lee ("Lee") and a computer-generated English translation of Japanese Patent Pub. No. 07-086893 A by Kida ("Kida").

As to claims 12, 14 and 16, Skerlos discloses a method of driving a display comprising: receiving an input signal having a first period corresponding to a number of lines in the display; and comparing the first period with a reference period (Skerlos, col. 11, ll. 12-18). Moreover, Skerlos discloses outputting a signal of a first state (e.g., 'ok pulse flag') only if the first period is indicative of an input signal presence (e.g., vsync); and determining the absence or the presence of the input signal according to the number of the signal of the first state during a predetermined interval (e.g., number of pulses, at least one for presence and none for absence) (Skerlos, Table 1).

Furthermore, examiner respectfully submits that Skerlos discloses determining the absence or the presence of the input signal if the number of pulses of the signal of the first state (e.g., 'ok pulse flag') is not less than a predetermined number (e.g., 2), wherein each of the pulses is to be of the first state and continuously has same values. For

example, the claimed “each of the pulses is to be of the first state and continuously has same values” is broadly interpreted as any duration of time during the period of the ‘ok pulse flag’ at which the ‘ok pulse flag’ is actively high. Thus, if the duration of time is taken to be half the period of the ‘ok pulse flag’ at which the ‘ok pulse flag’ is actively high, then it follows that there are two pulses each of which is to be of the first state (e.g., actively high) and continuously has same values.

As such, examiner respectfully submits that in the above example, two continuous values of the signal of the first state are generated for an ‘ok pulse flag’ and are therefore indicative of vsync signal presence, whereas anything less than two continuous values (e.g., 0) are indicative of vsync signal absence. Thus, the presence of a vsync signal is determined if the number of pulses of the signal of the first state (e.g., ‘ok pulse flag’) is not less than two (e.g., “a predetermined plural number”, as claimed).

Skeros does not disclose expressly wherein the comparing of the first period with a reference period includes: determining only whether the first period is less than a first reference period; determining only whether the first period is greater than a first reference period; or determining only whether the first period is less than a first reference period and greater than a second reference period.

Lee, analogous in art with Skeros, teaches/suggests a method of detecting the absence or the presence of different v-sync signals in Figures 3A and 3B, comprising: receiving an input signal having a first period corresponding to a number of lines in the display; determining only whether the first period is less than a first reference period; determining only whether the first period is greater than a first reference period; and determining only whether the first period is less than a first reference period and greater than a second reference period (Lee, col. 4, ll. 7-67).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the teachings of Skeros such that the comparing of the

first period with a reference period includes: determining only whether the first period is less than a first reference period; determining only whether the first period is greater than a first reference period; and determining only whether the first period is less than a first reference period and greater than a second reference period, as taught/suggested by Lee. The suggestion/motivation for doing so would have been to detect the absence or the presence of a v-sync signal in the event that v-sync signals of more than one value may be received by the display (Lee, col. 1, l. 58 – col. 2, l. 12).

However, neither Skerlos nor Lee disclose expressly *generating a detection reference signal to compare periods of the input signal and a pre-synchronizing signal*; and determining the absence or the presence of the input signal *during an input interval of the detection reference signal, being different from the signal of the first state*, as claimed.

Kida discloses a method for verifying a pulse signal, comprising the steps of: generating a detection reference signal (e.g., C) to compare periods of a first signal (e.g., B) and a second signal (e.g., C); and analyzing an output pulse signal (e.g., B) during an input interval of the detection reference signal (e.g., C) to verify the outputted pulse signal (e.g., B) (Kida, ¶ [0008]).

At the time the invention was made it would have been obvious to one having ordinary skill in the art to further modify the method of Skerlos and Lee such that a step for verifying the pulse signal (e.g., ‘ok pulse flag’ in Skerlos) was included, as taught by Kida. The suggestion/motivation for doing so would have been to verify the output and reception of a pulse signal, thereby protecting its application from any abnormalities, as one of ordinary skill in the art would appreciate.

Thus, examiner respectfully submits that the references taken collectively would have suggested comparing the ‘ok pulse flag’ in Skerlos with a reference pulse flag signal for the purposes of verifying the ‘ok pulse flag’. As discussed in the preceding

paragraphs, an 'ok pulse flag' comprises at least a predetermined plural number of pulses (e.g., 2) during an interval (e.g., duration of the 'ok pulse flag'), wherein each of the pulses is to be of the first state and continuously has same values. As such, the verification of an output 'ok pulse flag' comprises the step of determining if the number of pulses of the output 'ok pulse flag' is not less than a predetermined plural number (e.g., 2) during an input interval of the reference pulse flag signal (e.g., detection reference signal C in Kida), being different from the output 'ok pulse flag'. Moreover, the preceding paragraphs discuss how the presence or absence of the input signal in Skerlos is based on the output of an 'ok pulse flag' (e.g., claimed "signal of the first state"). Thus, examiner respectfully submits that the prior art of record taken collectively discloses the claimed limitations.

Moreover, although Skerlos as modified by Lee and Kida disclose generating a detection reference signal (e.g., Kida, C) to compare periods of the input signal (e.g., Skerlos, 'ok pulse flag') and a second signal (e.g., Kida, C), neither reference discloses expressly wherein the second signal is a pre-synchronizing signal, as claimed. However, examiner notes that the claims are absent any limitations that further define this pre-synchronizing signal. The ordinary and customary meaning of a pre-synchronizing signal is a signal that is used prior to synchronization. Examiner respectfully submits that signal C of Kida, used in the comparison of the 'ok pulse flag' in Skerlos, reads on a pre-synchronizing signal since it is used to aid in determining the presence or absence of an 'ok pulse flag' and thus a vertical synchronization signal.

As to claims 13, 15 and 17, Skerlos as modified by Lee and Kida teaches/suggests wherein the receiving, generating, determining and outputting steps are repeated and determining if the first state is output a second time (Skerlos, col. 13, ll. 7-12).

## RESPONSE TO ARGUMENTS

6. Applicant's arguments filed August 7, 2009, have been fully considered but they are not persuasive. Applicant argues that the simulated clock signal C of Kida is a comparative object to compare with the fixed pattern signal B, whereas the detection reference signal claimed is used to determine the period of comparing. While examiner agrees with applicant in that the simulated clock signal C of Kida is a comparative object to compare with the fixed pattern signal B, examiner respectfully submits that simulated clock signal C also functions to define the period of comparison, e.g., the period of simulated clock signal C is compared with signal B (Kida, ¶ [0008]).

Furthermore, examiner respectfully submits that the prior art taken collectively reads on the new limitation "...to compare periods of the input signal and a pre-synchronizing signal" added to claims 12, 14 and 16. For example, although Skerlos as modified by Lee and Kida disclose generating a detection reference signal (e.g., Kida, C) to compare periods of the input signal (e.g., Skerlos, 'ok pulse flag') and a second signal (e.g., Kida, C), neither reference discloses expressly wherein the second signal is a pre-synchronizing signal, as claimed. However, examiner notes that the claims are absent any limitations that further define this pre-synchronizing signal. The ordinary and customary meaning of a pre-synchronizing signal is a signal that is used prior to synchronization. Examiner respectfully submits that signal C of Kida, used in the comparison of the 'ok pulse flag' in Skerlos, reads on a pre-synchronizing signal since it is used to aid in determining the presence or absence of an 'ok pulse flag' and thus a vertical synchronization signal.

### CONCLUSION

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALEXANDER S. BECK whose telephone number is (571)272-7765. The examiner can normally be reached on M-F, 8AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on (571) 272-3638. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Dated: October 19, 2009

/Alexander S. Beck/  
Examiner, Art Unit 2629